

CLAIMS

[0025] What is claimed is:

1. An apparatus comprising:
 - a thermo-electric converter configuration having a first section embedded in a die and a second section embedded in a substrate connected to said die.
2. The apparatus of claim 1, wherein said first section is embedded in an active side of said die.
3. The apparatus of claim 1, wherein said first section comprises a plurality of cold conductive elements to absorb heat from said active side, and wherein said second section comprises a plurality of hot conductive elements to release said absorbed heat.
4. The apparatus of claim 3, wherein said configuration comprises a plurality of contacts to electrically connect said first section to said second section.
5. The apparatus of claim 4, wherein one or more of said cold conductive elements is connected to one or more of said contacts.
6. The apparatus of claim 5, wherein said second section comprises a plurality of p-type elements and n-type elements connected to said hot conductive elements and to said contacts to form a substantially continuous electric connection between a positive terminal and a negative terminal of said thermo electric converter.
7. The apparatus of claim 1, comprising a heat sink to convey heat out of said second section.
8. An apparatus comprising a semiconductor device package, the package comprising:
 - a die; and
 - a thermo-electric converter configuration having a first section embedded in said die and a second section embedded in a substrate connected to said die.
9. The apparatus of claim 8, wherein said first section is embedded in an active side of said die.
10. The apparatus of claim 8, wherein said first section comprises a plurality of cold conductive elements to absorb heat from said active side, and wherein said second section comprises a plurality of hot conductive elements to release said absorbed heat.
11. The apparatus of claim 10, wherein said configuration comprises a plurality of contacts to electrically connect said first section to said second section.

12. The apparatus of claim 11, wherein one or more of said cold conductive elements is connected to one or more of said contacts.
13. The apparatus of claim 12, wherein said second section comprises a plurality of p-type elements and n-type elements connected to said hot conductive elements and to said contacts to form a substantially continuous electric connection between a positive terminal and a negative terminal of said thermo electric converter.
14. The apparatus of claim 8 comprising a heat sink to convey heat out of said second section.
15. A method comprising:
 - absorbing heat from an active side of a die by a plurality of cold conductive elements embedded in said die; and
 - releasing said absorbed heat by a plurality of hot conductive elements embedded in a substrate connected to said die.
16. The method of claim 15 comprising conveying said released heat out of said substrate.
17. The method of claim 16, wherein conveying said released heat comprises using a heat sink associated with said substrate.
18. The method of claim 15 comprising electrically connecting said hot conductive elements to said cold conductive elements.
19. The method of claim 18, wherein electrically connecting said elements comprises using a plurality of contacts and a plurality of n-type elements and p-type elements.